REMARKS

Applicants appreciate the thoroughness with which the Examiner has examined the above-identified application. Reconsideration is requested in view of the amendments above and the remarks below.

Drawing Correction

In Fig. 6A, the Examiner notes that reference numbers 302 and 304 are interchanged. Applicants have amended these inadvertent references, reversing these reference numbers as suggested by the Examiner. Applicants appreciate the Examiner's attention to detail. An amended Fig. 6A is submitted herewith for the Examiner's review.

Antecedent Basis

The Examiner has objected to claim 19 and dependent claim 20 because claim 19 recites "said interconnect copper layer" without sufficient antecedent basis. Applicants have amended claim 19 to resolve this issue.

Objected Claims

The Examiner has objected to claims 16, 19 and 20 as being dependent upon rejected base claims, but would be allowable if rewritten in independent form. Applicants have attended to this objection by rewriting claims 16 and 19 as newly independent claims 21 and 22, respectively. Since claim 20 is dependent upon claim 19, applicants have added new dependent claim 23, dependent upon claim 22. Applicants respectfully submit that the new claims 21-23 are in a condition for allowance.

35 U.S.C. § 102 Rejections

The Examiner has rejected claims 1-4, 17 and 18 under 35 U.S.C. § 102 as being anticipated by Van Berkel, et al. (U.S. Patent No. 5,349,174). Applicants respectfully disagree.

Van Berkel is silent regarding any mask alignment using the transparent capacitor electrode layers. For example, the Examiner's cited portion (col. 9, ll.31-45) includes a transparent insulating layer 13 over the structure followed by a further transparent, generally ITO layer, which provides for the top electrodes of the capacitors. Van Berkel uses this transparency to effectively increase the sensitivity of the photosensitive elements by enabling a high quantity of charge to be stored in response to light incident on the photosensitive elements, which enables the photosensitive element to be smaller in size. Van Berkel, col. 4, ll.47-56.

In contrast the present invention discloses a means to build MIM capacitors and thin film resistors with at least one less lithographic step than the prior art methods.

> The process step reduction is realized by using semi-transparent metallic electrodes having metal transparent in at least a portion of the visible spectrum, and fabricated with a two-mask process, which provides for direct alignment, and eliminates the need for alignment trenches in an insulating or oxide layer, such as SiO_2.

Specification, para. 27.

Van Berkel does not teach, disclose, or suggest eliminating alignment trenches in an insulating or oxide layer. Van Berkel's use of the transparency is for an entirely different reason, and is further limited to photosensitive devices. The current invention is not so limited, since the usage of transparent capacitors for alignment process step elimination is not

restricted solely to photosensitive devices. Applicants have amended claims 1 and 8 to more distinctly claim a direct alignment process step, which reduces the fabrication steps associated with similar devices. Furthermore, Van Berkel does not teach or disclose the elimination of alignment trenches in the insulating or oxide layer. The present invention teaches and discloses this feature as a way to reduce the fabrication process steps.

Regarding claims 17 and 18, Van Berkel does not teach or disclose using transparent material to reduce process steps during the fabrication of resistors. Van Berkel does not teach, disclose, or suggest the fabrication of resistors whatsoever. Van Berkel cannot anticipate claims 17 and 18.

35 U.S.C. § 103 Rejections

The Examiner has rejected claims 5-15 under 35 U.S.C. § 103(a) as being unpatentable over Van Berkel in view of Allman, et al. (U.S. Patent No. 6,342,734). The Examiner states that Van Berkel lacks patterning a photoresist and etching the top and bottom electrodes with a mask such that the bottom electrode aligns with a metal interconnect. The Examiner further states that Allman teaches the method absent in Van Berkel. Applicants disagree.

Allman specifically teaches a fabrication process that requires more steps than the two-step fabrication process of the present invention. "The overall process employed is similar to familiar photolithographic and etching steps used to fabricate poly plate capacitors." Allman, col. 3, ll.16-18.

> The capacitor construction itself facilitates using *conventional* photolithographic and etching steps, and the construction process and materials

> used make for a straightforward construction of capacitor plates and their connection to the interconnect layers.

Allman, col. 3, ll.22-26 (emphasis added).

Neither Van Berkel nor Allman teach, disclose, or suggest a two-step fabrication process using the transparency of the electrodes during alignment to eliminate a process step. Since Allman uses a three-step process, it effectively teaches away from using transparent material as a way to accomplish direct alignment in a two-step process.

It is respectfully submitted that the application has now been brought into a condition where allowance of the entire case is proper. Reconsideration and issuance of a Notice of Allowance are respectfully solicited. Should the Examiner not find the claims to be allowable, Applicants' attorney respectfully requests that the Examiner call the undersigned to clarify any issue in order to place the case in condition for allowance.

Respectfully submitted,

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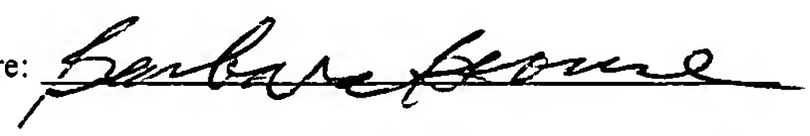
Name: Barbara Browne Date: June 29, 2004 Signature: 

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